

U.S.S.N. 10/634,850

IN THE CLAIMS

Please cancel claims 1 to 18 without prejudice.

Please add new claims 19 to 27.

The following listing of claims replaces all prior versions and listings of claims in the application:

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Listing of Claims

Claims 1-18. (Cancelled)

19. (new) A method for defect compensation in a color image sensor having pixels, the method comprising the steps of:

predetermining a first threshold;

selecting a first pixel and defining a corresponding first window that includes the first pixel;

determining whether the first pixel is a peak by checking whether it has a color difference larger than the first threshold from two adjacent pixels of the same color which are adjacent to the first pixel;

selecting a second pixel and defining a corresponding second window that includes the second pixel;

determining whether the second pixel is a peak by checking whether it has a color difference larger than the first threshold from two adjacent pixels of the same color which are adjacent to the second pixel; and

when the first pixel is not one of the two adjacent pixels of the second pixel, but is within the second window, storing 1-bit information of the first pixel, indicating whether it is a peak.

20. (new) The method of claim 19, further comprising:

providing a second threshold; and

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confirming a peak to be a defect if no other pixel in the window is a peak and if two pixels immediately adjacent to the peak both have color differences smaller than the second threshold from their two adjacent pixels of the same color.

21. (new) The method of claim 20, further comprising: correcting a color value of the defect.

22. (new) An apparatus for defect compensation in a color image sensor having pixels, the apparatus comprising:

a memory device; and

a processor operable for-

(i) selecting a first pixel and defining a corresponding first window that includes the first pixel;

(ii) determining whether the first pixel is a peak by checking whether it has a color difference larger than a predetermined first threshold from two adjacent pixels of the same color which are adjacent to the first pixel;

(iii) selecting a second pixel and defining a corresponding second window that includes the second pixel; and

(iv) determining whether the second pixel is a peak by checking whether it has a color difference larger than the first threshold from two adjacent pixels of the same color which are adjacent to the second pixel;

wherein, when the first pixel is not one of the two adjacent pixels of the second pixel, but is within the second window, storing 1-bit information of the first pixel in the memory device, indicating whether it is a peak.

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23. (new) The apparatus of claim 22, wherein the processor further implements the step of: confirming a peak to be a defect if no other pixel in the window is a peak and if two pixels immediately adjacent to the peak both have color differences smaller than a predetermined second threshold from their two adjacent pixels of the same color.

24. (new) The apparatus of claim 23, wherein the processor further implements the step of: correcting a color value of the defect.

25. (new) A method for defect compensation in an image sensor having pixels, the method comprising the steps of:

- predetermining a first threshold;

- selecting a first pixel and defining a corresponding first window that includes the first pixel;

- determining whether the first pixel is a peak by checking whether it has a difference larger than the first threshold from two adjacent pixels of the first pixel;

- selecting a second pixel and defining a corresponding second window that includes the second pixel;

- determining whether the second pixel is a peak by checking whether it has a difference larger than the first threshold from two adjacent pixels of the second pixel;

- and

- when the first pixel is not one of the two adjacent pixels of the second pixel, but is within the second window, storing 1-bit information of the first pixel, indicating whether it is a peak.

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26. (new) The method of claim 25, further comprising:

providing a second threshold; and

confirming a peak to be a defect if no other pixel in the window is a peak and if two pixels immediately adjacent to the peak both have differences smaller than the second threshold from their two adjacent pixels.

27. (new) The method of claim 26, further comprising: correcting a value of the defect.